2/24/00

```
### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
Trying 3106900061...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
 ******** HHHHHHHH SSSSSSSS?
### Status: Signing onto Dialog
 ********
ENTER PASSWORD:
 ******** HHHHHHHH SSSSSSSS? ********
Welcome to DIALOG
### Status: Connected


Dialog level 99.12.23D

Last logoff:  24feb00 12:03:48
Logon file001 24feb00 12:09:21
KWIC is set to 50.
HILIGHT set on as '*'

File   1:ERIC  1966-1999/Dec
       (c) format only 2000 The Dialog Corporation
*File   1: File has been reloaded. See HELP NEWS 1.
Limits of /ED and /EJ currently not working.

      Set  Items  Description
      ---  -----  -----------
?b 155, 5, 73
       24feb00 12:09:43 User259876 Session D21.1
            $0.36    0.102 DialUnits File1
     $0.36  Estimated cost File1
     $0.02  TYMNET
     $0.38  Estimated cost this search
     $0.38  Estimated total session cost   0.102 DialUnits


SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2000/Apr W2
         (c) format only 2000 Dialog Corporation
  File   5:Biosis Previews(R)  1969-2000/Jan W2
         (c) 2000 BIOSIS
*File   5: Updates renamed. See Help News5.
  File  73:EMBASE  1974-2000/Feb W2
         (c) 2000 Elsevier Science B.V.
*File  73: New drug links added. See Help News73.

      Set  Items  Description
      ---  -----  -----------
?s transduction (w) methods
          189443  TRANSDUCTION
         2612717  METHODS
      S1      65  TRANSDUCTION (W) METHODS
?s hematopoietic (w) progenitor (w) cells
           86061  HEMATOPOIETIC
           45056  PROGENITOR
         3506179  CELLS
      S2    5764  HEMATOPOIETIC (W) PROGENITOR (W) CELLS
?s mesenchymal (w) stem (w) cells
           31150  MESENCHYMAL
          232543  STEM
         3506179  CELLS
      S3     480  MESENCHYMAL (W) STEM (W) CELLS
```

```
?s s1 and s2 and s3
                65  S1
              5764  S2
               480  S3
      S4         0  S1 AND S2 AND S3
?s s1 and s2
                65  S1
              5764  S2
      S5         0  S1 AND S2
?s s1 and s3
                65  S1
               480  S3
      S6         0  S1 AND S3
?s s2 and s3
              5764  S2
               480  S3
      S7         5  S2 AND S3
?s heterologous (w) gene (w) expression
             69224  HETEROLOGOUS
           1418988  GENE
           1211925  EXPRESSION
      S8     540  HETEROLOGOUS (W) GENE (W) EXPRESSION
?s s7 and s8
                5  S7
              540  S8
      S9        0  S7 AND S8
?rd s7
...completed examining records
     S10        3  RD S7 (unique items)
?t s10/3,k/all
```

10/3,K/1 (Item 1 from file: 155)

```
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2000 Dialog Corporation. All rts. reserv.

09544045   98278707
```

Phenotypic and functional comparison of cultures of marrow-derived *mesenchymal* *stem* *cells* (MSCs) and stromal cells.

Majumdar MK; Thiede MA; Mosca JD; Moorman M; Gerson SL

Osiris Therapeutics Inc., Baltimore, Maryland, USA.

J Cell Physiol (UNITED STATES) Jul 1998, 176 (1) p57-66, ISSN 0021-9541 Journal Code: HNB

Contract/Grant No.: P30CA43703, CA, NCI; RO1CA63193, CA, NCI

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Phenotypic and functional comparison of cultures of marrow-derived *mesenchymal* *stem* *cells* (MSCs) and stromal cells.

Mesenchymal *stem* *cells* (MSCs) are a population of pluripotent cells within the bone marrow microenvironment defined by their ability to differentiate into cells of the osteogenic, chondrogenic, tendonogenic...

... only in MSCs, further emphasizing phenotypic differences between MSCs and MDSCs. In long-term bone marrow culture (LTBMC), MSCs maintained the hematopoietic differentiation of CD34+ *hematopoietic* *progenitor* *cells* . Together, these data suggest that MSCs represent an important cellular component of the bone marrow microenvironment.

10/3,K/2 (Item 1 from file: 5)

```
DIALOG(R)File   5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

10731780   BIOSIS NO.: 199799352925
```

Antibody-isolation of pluripotent human marrow stromal progenitor cells that support in vitro hematopoiesis by CD34+ bone marrow cells.

AUTHOR: Thiede M A; Majumdar M; Mosca J D
AUTHOR ADDRESS: Osiris Therapeutics Inc., Baltimore, MD**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p186A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

MISCELLANEOUS TERMS: ...*HEMATOPOIETIC* *PROGENITOR* *CELLS*; ...

...*MESENCHYMAL* *STEM* *CELLS*;

10/3,K/3 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2000 Elsevier Science B.V. All rts. reserv.

07868681 EMBASE No: 1999349369
Bone marrow adipocytes and hematopoiesis
ADIPOCYTES MEDULLAIRES ET HEMATOPOIESE
Laharrague P.; Corberand J.X.; Cousin B.; Penicaud L.; Casteilla L.
P. Laharrague, Laboratoire d'Hematologie, CHU Toulouse Rangueil, Toulouse Rangueil France
Hematologie (HEMATOLOGIE) (France) 1999, 5/4 (255-263)
CODEN: HEMAF ISSN: 1264-7527
DOCUMENT TYPE: Journal; Review
LANGUAGE: FRENCH SUMMARY LANGUAGE: ENGLISH; FRENCH
NUMBER OF REFERENCES: 58

...cultures with murine stromal cell lines or cells directly issued from human marrow confirm these interactions and demonstrate that 1) in the bone marrow cavity, *hematopoietic* *progenitor* *cells* coexist with *mesenchymal* *stem* *cells* which can produce adipocytes and osteoblasts; 2) depending on the degree of adipogenesis, the bone marrow microenvironment could locally encourage either lymphopoiesis or myelopoiesis; 3...
?logoff
24feb00 12:18:19 User259876 Session D21.2
$1.27 0.396 DialUnits File155
$0.20 1 Type(s) in Format 3
$0.20 1 Types
$1.47 Estimated cost File155
$3.03 0.541 DialUnits File5
$1.65 1 Type(s) in Format 3
$1.65 1 Types
$4.68 Estimated cost File5
$3.63 0.427 DialUnits File73
$2.35 1 Type(s) in Format 3
$2.35 1 Types
$5.98 Estimated cost File73
OneSearch, 3 files, 1.364 DialUnits FileOS
$0.45 TYMNET
$12.58 Estimated cost this search
$12.96 Estimated total session cost 1.467 DialUnits

Status: Signed Off. (9 minutes)

assays do not necessarily reflect human osteoclastogenesis. We sought to establish a reproducible *coculture* model of human osteoclastogenesis using highly purified human marrow-derived MSCs (hMSCs) and *CD34*+ hematopoietic stem cells (HSCs). After 3 weeks, *coculture* of hMSCs and HSCs resulted in an increase in hematopoietic cell number with formation of multinucleated osteoclast-like cells (Ocls). *Coculture* of hMSCs with HSCs, transduced with a retroviral vector that expresses enhanced green fluorescent protein, produced enhanced green fluorescent protein+ Ocls, further demonstrating that Ocls...

... the ability to resorb bone. Ocl formation in this assay is cell contact dependent and is independent of added exogenous factors. Conditioned medium from the *coculture* contained high levels of interleukin (IL)-6, IL-11, leukemia inhibitory factor (LIF), and macrophage-colony stimulating factor. IL-6 and LIF were present at low levels in cultures of hMSCs but undetectable in cultures of HSCs alone. These data suggest that *coculture* with HSCs induce hMSCs to secrete cytokines involved in Ocl formation. Addition of neutralizing anti-IL-6, IL-11, LIF, or macrophage-colony stimulating factor antibodies to the *coculture* inhibited Ocl formation. hMSCs seem to support Ocl formation as undifferentiated progenitor cells, because treatment of hMSCs with dexamethasone, ascorbic acid, and beta-glycerophosphate (to induce osteogenic differentiation) actually inhibited osteoclastogenesis in this *coculture* model. In conclusion, we have developed a simple and reproducible assay using culture-expanded hMSCs and purified HSCs with which to study the mechanisms of...
; Acid Phosphatase--Analysis--AN; Antigens, CD--Analysis--AN; Antigens, CD34--Analysis--AN; Cell Differentiation; Cell Line; Cells, Cultured; *Coculture*; Isoenzymes--Analysis--AN; Kidney; Mesoderm--Cytology--CY; Osteoclasts--Physiology--PH; Stem Cells--Cytology--CY
?ds

Set	Items	Description
S1	7249	(HEMATOPOIETIC (W) PROGENITOR (W) CELL?)
S2	728	(MESENCHYMAL (W) STEM (W) CELL?)
S3	10	S1 AND S2
S4	7	RD (unique items)
S5	3	S4 AND (COCULTURE OR CO-CULTURE)
S6	9	S1 (S) S2
S7	6	RD (unique items)
S8	20	S2 (S) CD34
S9	4	S8 AND (COCULTURE OR CO-CULTURE)
S10	2	RD (unique items)

?logoff
20nov00 15:29:22 User259876 Session D154.2
$2.35 0.735 DialUnits File155
$1.00 5 Type(s) in Format 3
$1.00 5 Types
$3.35 Estimated cost File155
$6.99 1.249 DialUnits File5
$4.95 3 Type(s) in Format 3
$4.95 3 Types
$11.94 Estimated cost File5
$11.33 1.333 DialUnits File73
$7.05 3 Type(s) in Format 3
$7.05 3 Types
$18.38 Estimated cost File73
OneSearch, 3 files, 3.317 DialUnits FileOS
$0.65 TYMNET
$34.32 Estimated cost this search
$34.75 Estimated total session cost 3.436 DialUnits

Status: Signed Off. (13 minutes)

```
### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
Trying 3106900061...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
 ******** HHHHHHHH SSSSSSSS?
### Status: Signing onto Dialog
 ********
ENTER PASSWORD:
 ******** HHHHHHHH SSSSSSSS?zts0dhlz ********
Welcome to DIALOG
### Status: Connected


Dialog level 00.07.20D

Last logoff:  20nov00 14:14:18
Logon file001 20nov00 15:16:50
KWIC is set to 50.
HILIGHT set on as '*'

File   1:ERIC  1966-2000/Nov 03
       (c) format only 2000 The Dialog Corporation

      Set  Items  Description
      ---  -----  -----------
?b 155, 5, 73
       20nov00 15:16:59 User259876 Session D154.1
            $0.42    0.119 DialUnits File1
     $0.42  Estimated cost File1
     $0.01  TYMNET
     $0.43  Estimated cost this search
     $0.43  Estimated total session cost   0.119 DialUnits


SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2000/Dec W4
         (c) format only 2000 Dialog Corporation
*File 155: For changes to the file and check tags information
please see Help News155.
  File   5:Biosis Previews(R)  1969-2000/Nov W3
         (c) 2000 BIOSIS
  File  73:EMBASE  1974-2000/Oct W4
         (c) 2000 Elsevier Science B.V.
*File  73: Update codes are currently undergoing readjustment.
For details type Help News73.

      Set  Items  Description
      ---  -----  -----------
?s (hematopoietic (w) progenitor (w) cell?)
Processing
Processing
          91920  HEMATOPOIETIC
          48037  PROGENITOR
        6705932  CELL?
      S1    7249  (HEMATOPOIETIC (W) PROGENITOR (W) CELL?)
?s (mesenchymal (w) stem (w) cell?)
Processing
          32782  MESENCHYMAL
         245771  STEM
        6705932  CELL?
      S2     728  (MESENCHYMAL (W) STEM (W) CELL?)
?s s1 and s2
```

```
            7249  S1
             728  S2
      S3      10  S1 AND S2
?rd
...completed examining records
      S4       7  RD (unique items)
?s s4 and (coculture or co-culture)
               7  S4
           11846  COCULTURE
             117  CO-CULTURE
      S5       3  S4 AND (COCULTURE OR CO-CULTURE)
?t s5/3,k/all
```

5/3,K/1 (Item 1 from file: 155)

10441179 20285390

Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34(+) *hematopoietic* *progenitor* *cells*.

Cheng L; Qasba P; Vanguri P; Thiede MA
Osiris Therapeutics, Inc., Baltimore, Maryland, USA.

Journal of cellular physiology (UNITED STATES) Jul 2000, 184 (1) p58-69, ISSN 0021-9541 Journal Code: HNB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34(+) *hematopoietic* *progenitor* *cells*.

Megakaryocytopoiesis and thrombocytopoiesis result from the interactions between *hematopoietic* *progenitor* *cells*, humoral factors, and marrow stromal cells derived from *mesenchymal* *stem* *cells* (MSCs) or MSCs directly. MSCs are self-renewing marrow cells that provide progenitors for osteoblasts, adipocytes, chondrocytes, myocytes, and marrow stromal cells. MSCs are isolated...

... MSCs (hMSCs) express a variety of hematopoietic cytokines and growth factors and maintain long-term culture-initiating cells in long-term marrow culture with CD34(+) *hematopoietic* *progenitor* *cells*. Two lines of evidence suggest that hMSCs function in megakaryocyte development. First, hMSCs express messenger RNA for thrombopoietin, a primary regulator for megakaryocytopoiesis and thrombocytopoiesis...

...hMSCs were copurified by immunoselection using an anti-CD41 antibody. To determine whether hMSCs can support megakaryocyte and platelet formation in vitro, we established a *coculture* system of hMSCs and CD34(+) cells in serum-free media without exogenous cytokines. These cocultures produced clusters of hematopoietic cells atop adherent MSCs. After 7...

; Antigens, CD--Analysis--AN; Antigens, CD34--Analysis--AN; Blood Platelets--Physiology--PH; Bone Marrow Cells--Cytology--CY; Cell Adhesion; Cell Differentiation; Cells, Cultured; *Coculture*; Hematopoiesis; Mesoderm --Cytology--CY; Platelet Activation; Platelet Glycoprotein GPIIb-IIIa Complex--Analysis--AN; Stem Cells--Cytology--CY; Thrombin--Pharmacology--PD ; Thrombin--Physiology--PH; Thrombopoietin--Genetics...

5/3,K/2 (Item 1 from file: 5)

10731780 BIOSIS NO.: 199799352925

Antibody-isolation of pluripotent human marrow stromal progenitor cells that support in vitro hematopoiesis by CD34+ bone marrow cells.

AUTHOR: Thiede M A; Majumdar M; Mosca J D
AUTHOR ADDRESS: Osiris Therapeutics Inc., Baltimore, MD**USA

JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p186A 1996

CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

MISCELLANEOUS TERMS: ...*COCULTURE*; ...

...*HEMATOPOIETIC* *PROGENITOR* *CELLS*; ...

...*MESENCHYMAL* *STEM* *CELLS*;

5/3,K/3 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10712583 EMBASE No: 2000201460
Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34sup + *hematopoietic* *progenitor* *cells*
Cheng L.; Qasba P.; Vanguri P.; Thiede M.A.
P. Vanguri, Osiris Therapeutics, Inc., 2001 Aliceanna Street, Baltimore, MD 21231-2001 United States
Journal of Cellular Physiology (J. CELL. PHYSIOL.) (United States)
2000, 184/1 (58-69)
CODEN: JCLLA ISSN: 0021-9541
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 53

Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34sup + *hematopoietic* *progenitor* *cells*

Megakaryocytopoiesis and thrombocytopoiesis result from the interactions between *hematopoietic* *progenitor* *cells*, humoral factors, and marrow stromal cells derived from *mesenchymal* *stem* *cells* (MSCs) or MSCs directly. MSCs are self-renewing marrow cells that provide progenitors for osteoblasts, adipocytes, chondrocytes, myocytes, and marrow stromal cells. MSCs are isolated...

...MSCs (hMSCs) express a variety of hematopoietic cytokines and growth factors and maintain long-term culture-initiating cells in long-term marrow culture with CD34sup + *hematopoietic* *progenitor* *cells*. Two lines of evidence suggest that hMSCs function in megakaryocyte development. First, hMSCs express messenger RNA for thrombopoietin, a primary regulator for megakaryocytopoiesis and thrombocytopoiesis...

...hMSCs were copurified by immunoselection using an anti-CD41 antibody. To determine whether hMSCs can support megakaryocyte and platelet formation in vitro, we established a *coculture* system of hMSCs and CD34sup + cells in serum-free media without exogenous cytokines. These cocultures produced clusters of hematopoietic cells atop adherent MSCs. After 7...
?ds

Set	Items	Description
S1	7249	(HEMATOPOIETIC (W) PROGENITOR (W) CELL?)
S2	728	(MESENCHYMAL (W) STEM (W) CELL?)
S3	10	S1 AND S2
S4	7	RD (unique items)
S5	3	S4 AND (COCULTURE OR CO-CULTURE)

?s s1 (s) s2
7249 S1
728 S2
S6 9 S1 (S) S2
?rd
...completed examining records

S7 6 RD (unique items)
?t s7/3,k/all

7/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10441179 20285390
Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34(+) *hematopoietic* *progenitor* *cells*.
Cheng L; Qasba P; Vanguri P; Thiede MA
Osiris Therapeutics, Inc., Baltimore, Maryland, USA.
Journal of cellular physiology (UNITED STATES) Jul 2000, 184 (1) p58-69, ISSN 0021-9541 Journal Code: HNB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34(+) *hematopoietic* *progenitor* *cells*.
Megakaryocytopoiesis and thrombocytopoiesis result from the interactions between *hematopoietic* *progenitor* *cells*, humoral factors, and marrow stromal cells derived from *mesenchymal* *stem* *cells* (MSCs) or MSCs directly. MSCs are self-renewing marrow cells that provide progenitors for osteoblasts, adipocytes, chondrocytes, myocytes, and marrow stromal cells. MSCs are isolated...

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7/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09527277 98278707
Phenotypic and functional comparison of cultures of marrow-derived mesenchymal stem cells (MSCs) and stromal cells.
Majumdar MK; Thiede MA; Mosca JD; Moorman M; Gerson SL
Osiris Therapeutics Inc., Baltimore, Maryland, USA.
Journal of cellular physiology (UNITED STATES) Jul 1998, 176 (1) p57-66, ISSN 0021-9541 Journal Code: HNB
Contract/Grant No.: P30CA43703, CA, NCI; RO1CA63193, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Mesenchymal *stem* *cells* (MSCs) are a population of pluripotent cells within the bone marrow microenvironment defined by their ability to differentiate into cells of the osteogenic, chondrogenic, tendonogenic...

... only in MSCs, further emphasizing phenotypic differences between MSCs and MDSCs. In long-term bone marrow culture (LTBMC), MSCs maintained the hematopoietic differentiation of CD34+ *hematopoietic* *progenitor* *cells* . Together, these data suggest that MSCs represent an important cellular component of the bone marrow microenvironment.

7/3,K/3 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12642713 BIOSIS NO.: 200000396215
Vitro maintenance of hematopoietic stem cells.

AUTHOR: Thiede Mark A(a); Pittenger Mark F; Mbalaviele Gabriel
AUTHOR ADDRESS: (a)Forest Hill, MD**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1231 (5):pNo pagination Feb. 29, 2000
MEDIUM: e-file
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The present invention is directed to human *mesenchymal* *stem* *cells* isolated from a tissue specimen, such as marrow cells, and to the method of co-culturing isolated *mesenchymal* *stem* *cells* and/or *mesenchymal* *stem* *cell*-derived adipocytes with *hematopoietic* *progenitor* *cells* such that the hematopoietic stem cells retain their phenotype.

7/3,K/4 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12558428 BIOSIS NO.: 200000311930
Enhancing *hematopoietic* *progenitor* *cell* engraftment using *mesenchymal* *stem* *cells*.
AUTHOR: Caplan Arnold I(a); Haynesworth Stephen E; Gerson Stanton L; Lazarus Hillard M
AUTHOR ADDRESS: (a)Cleveland Heights, OH**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1230 (1):pNo pagination Jan. 4, 2000
MEDIUM: e-file
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

Enhancing *hematopoietic* *progenitor* *cell* engraftment using *mesenchymal* *stem* *cells*.

ABSTRACT: Method and preparations for enhancing *hematopoietic* *progenitor* *cell* engraftment in an individual by administering (i) a culturally expanded *mesenchymal* *stem* *cell* preparation and (ii) *hematopoietic* *progenitor* *cells*. The *mesenchymal* *stem* *cells* are administered in an amount effective to promote engraftment of the *hematopoietic* *progenitor* *cells*.

7/3,K/5 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10712583 EMBASE No: 2000201460
Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from CD34sup + *hematopoietic* *progenitor* *cells*
Cheng L.; Qasba P.; Vanguri P.; Thiede M.A.
P. Vanguri, Osiris Therapeutics, Inc., 2001 Aliceanna Street, Baltimore, MD 21231-2001 United States
Journal of Cellular Physiology (J. CELL. PHYSIOL.) (United States) 2000, 184/1 (58-69)
CODEN: JCLLA ISSN: 0021-9541
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 53

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7/3,K/6 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2000 Elsevier Science B.V. All rts. reserv.

07868681 EMBASE No: 1999349369
Bone marrow adipocytes and hematopoiesis
ADIPOCYTES MEDULLAIRES ET HEMATOPOIESE
Laharrague P.; Corberand J.X.; Cousin B.; Penicaud L.; Casteilla L.
P. Laharrague, Laboratoire d'Hematologie, CHU Toulouse Rangueil, Toulouse Rangueil France
Hematologie (HEMATOLOGIE) (France) 1999, 5/4 (255-263)
CODEN: HEMAF ISSN: 1264-7527
DOCUMENT TYPE: Journal; Review
LANGUAGE: FRENCH SUMMARY LANGUAGE: ENGLISH; FRENCH
NUMBER OF REFERENCES: 58

...cultures with murine stromal cell lines or cells directly issued from human marrow confirm these interactions and demonstrate that 1) in the bone marrow cavity, *hematopoietic* *progenitor* *cells* coexist with *mesenchymal* *stem* *cells* which can produce adipocytes and osteoblasts; 2) depending on the degree of adipogenesis, the bone marrow microenvironment could locally encourage either lymphopoiesis or myelopoiesis; 3...
?ds

Set	Items	Description
S1	7249	(HEMATOPOIETIC (W) PROGENITOR (W) CELL?)
S2	728	(MESENCHYMAL (W) STEM (W) CELL?)
S3	10	S1 AND S2
S4	7	RD (unique items)
S5	3	S4 AND (COCULTURE OR CO-CULTURE)
S6	9	S1 (S) S2
S7	6	RD (unique items)

?s s2 (s) CD34

	728	S2
	20972	CD34
S8	20	S2 (S) CD34

?s s8 and (coculture or co-culture)

	20	S8
	11846	COCULTURE
	117	CO-CULTURE
S9	4	S8 AND (COCULTURE OR CO-CULTURE)

?rd
...completed examining records

S10	2	RD (unique items)

?t s10/3,k/all

10/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2000 Dialog Corporation. All rts. reserv.

10441179 20285390
Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from *CD34*(+) hematopoietic progenitor cells.
Cheng L; Qasba P; Vanguri P; Thiede MA
Osiris Therapeutics, Inc., Baltimore, Maryland, USA.
Journal of cellular physiology (UNITED STATES) Jul 2000, 184 (1) p58-69, ISSN 0021-9541 Journal Code: HNB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Human *mesenchymal* *stem* *cells* support megakaryocyte and pro-platelet formation from *CD34*(+) hematopoietic progenitor cells.
Megakaryocytopoiesis and thrombocytopoiesis result from the interactions between hematopoietic progenitor cells, humoral factors, and marrow stromal cells derived from *mesenchymal* *stem* *cells* (MSCs) or MSCs directly. MSCs are self-renewing marrow cells that provide progenitors for osteoblasts, adipocytes, chondrocytes, myocytes, and marrow stromal cells. MSCs are isolated...

... human MSCs (hMSCs) express a variety of hematopoietic cytokines and growth factors and maintain long-term culture-initiating cells in long-term marrow culture with *CD34*(+) hematopoietic progenitor cells. Two lines of evidence suggest that hMSCs function in megakaryocyte development. First, hMSCs express messenger RNA for thrombopoietin, a primary regulator for...

...hMSCs were copurified by immunoselection using an anti-CD41 antibody. To determine whether hMSCs can support megakaryocyte and platelet formation in vitro, we established a *coculture* system of hMSCs and *CD34*(+) cells in serum-free media without exogenous cytokines. These cocultures produced clusters of hematopoietic cells atop adherent MSCs. After 7 days, CD41(+) megakaryocyte clusters and...

... thrombin treatment. These results suggest that MSCs residing within the megakaryocytic microenvironment in bone marrow provide key signals to stimulate megakaryocyte and platelet production from *CD34* (+) hematopoietic cells. Copyright 2000 Wiley-Liss, Inc.
; Antigens, CD--Analysis--AN; Antigens, CD34--Analysis--AN; Blood Platelets--Physiology--PH; Bone Marrow Cells--Cytology--CY; Cell Adhesion; Cell Differentiation; Cells, Cultured; *Coculture*; Hematopoiesis; Mesoderm --Cytology--CY; Platelet Activation; Platelet Glycoprotein GPIIb-IIIa Complex--Analysis--AN; Stem Cells--Cytology--CY; Thrombin--Pharmacology--PD ; Thrombin--Physiology--PH; Thrombopoietin--Genetics...

10/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

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Human *mesenchymal* *stem* *cells* promote human osteoclast differentiation from *CD34*+ bone marrow hematopoietic progenitors.
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Human *mesenchymal* *stem* *cells* promote human osteoclast differentiation from *CD34*+ bone marrow hematopoietic progenitors.
Interactions between osteoclast progenitors and stromal cells derived from *mesenchymal* *stem* *cells* (MSCs) within the bone marrow are important for osteoclast differentiation. In vitro models of osteoclastogenesis are well established in animal species; however, such